THE ROLE OF MONEY IN ECONOMIC THEORY

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Among recent tendencies in economic theory none seems to me more promising than the tendency to make the use of money the central feature of economic analysis. What forms, tacit and explicit, this tendency assumes, and what future work it suggests are my chief themes. But the significance of recent developments will stand out more clearly if I recall the curious rôle played by money in the parent stock from which our current types of economic theory are descended.

I

"The science of Political Economy as we have it in England," wrote Bagehot, "may be defined as the science of business, such as business is in large productive and trading communities. . . . It assumes the principal facts which make that commerce possible . . . .: free laborers working for money wages, capitalist employers in quest of money profits, a highly developed monetary system with a loan fund and a speculation fund—in short, the whole set of pecuniary institutions under which the "general art of money-making has grown up." "It assumes that every man who makes anything, makes it for money. . . ." Finally, it assumes the sort of human nature appropriate to money-makers. "Dealing with matters of 'business,' it assumes that man is animated only by motives of business."[1] Or, as Dr. Marshall phrased it, the classical economists worked out "their theories on the tacit supposition that the world was made up of city men."[2]

There are no better accredited interpreters of classical political economy than Bagehot and Marshall. Yet these tacit assumptions which they impute to the classical writers seem at variance with the explicit statements about money found in the classical texts. Mill puts the matter most clearly. He holds the use of money to be a superficial phenomenon, one which often "obscures, to an unpracticed apprehension, the true character of" economic processes.[3] He discusses production, distribution, and even ex-

[1] "The Postulates of English Political Economy." Bagehot's *Economic Studies,* edited by R. H. Hutton, especially pp. 6, 7.

[2] *Principles of Economics,* 1st ed., p. 62.

[3] *Principles of Political Economy,* Ashley's ed., p. 72.

change, "without introducing the idea of Money (except occasionally for illustration)." When he does "superadd that idea," he admits that without "a Circulating Medium" we should suffer two great inconveniences:—"the want of a common measure for values," and inability to carry the division of labor to any considerable extent.[4] But, "Great as the difference would be between a country with money, and a country wholly without it, it would be only one of convenience."[5] For, "The introduction of money does not interfere with the operation of any of the Laws of Value laid down in the . . . chapters" written before the idea of money was superadded.[6] And the like holds of distribution. Money makes no difference in the law of wages or the law of rent. "Wages and Rent being thus regulated by the same principles, when paid in money, as they would be if apportioned in kind, it follows that Profits are so likewise."[7] "There cannot, in short, be intrinsically a more insignificant thing, in the economy of society, than money, except in the character of a contrivance for sparing time and labour."[8]

Political Economy, then, is the science of business, and economic men are money-makers; nevertheless, the use of money is a fact of no importance for economic theory. This seeming contradiction between the letter of the economic law and its spirit as interpreted by loyal commentators long passed without notice.[9] It was part of the classical tradition to accept both of these views, and not to think of them at the same time.[10]

[4] Pp. 483, 484. It would be going too far to credit Mill with a full appreciation of all that lies latent in his admission that without money we should lack "a common measure for values."

[5] P. 6.

[6] P. 488.

[7] Pp. 688, 691.

[8] P. 488

[9] I have not scrupled to set Mill's clear statements about the insignificance of money against Bagehot's and Marshall's interpretations of classical economics, although both of the latter were probably thinking of Ricardo rather than of Mill. As Professor J. M. Keynes remarks, "Bagehot kicked morally and intellectually against the Mill despotism, just as Jevons did. The same feeling, far less intense, is to be found in some of the criticisms of Dr. Marshall." (The Works of Walter Bagehot," *Economic Journal,* September, 1915, XXV, 375). In the point at issue, however, it seems to me that Mill was merely formulating lucidly the tacit views of his predecessors.

[10] So far as I know, the first writer to raise the issue in any form was Professor F. von Wieser. In the preface of his *Natural Value* (1888, English translation, 1893, pp. xxvii-xxix) he pointed out the confusion between the

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When Jevons "shunted the car of Economic science" to another track, he pushed the use of money farther into the background. This result followed from his explicit avowal of hedonism as the basis of economic theory. The "ultimate quantities which we treat in Economics," he holds, "are Pleasures and Pains."[11] "But it is convenient to transfer our attention as soon as possible to the physical objects or actions which are the source to us of pleasures and pains."[12] Accordingly, he develops his theory of exchange without consciously introducing the use of money."[13] His "trading bodies" are engaged in barter,—swapping corn for beef. No man of his generation knew more about money and the mechanism of exchange than Jevons, and no man con-

"philosophical" theory of value and the "empirical" theory of price in Adam Smith and Ricardo. Professor A. C. Whitaker has worked out this theme fully in his *History and Criticism of the Labor Theory of Value in English Political Economy* (Columbia Studies in History, Economics and Public Law, vol. xix, no. 2), New York, 1904. The result of these inquiries is a detailed demonstration that the classical writers from Adam Smith to Cairnes did not succeed in resolving all items of "entrepreneur's cost" into "labor cost"—that is, they did not really get rid of pecuniary factors in their theory of exchange.

It has indeed become more difficult to understand than to criticise the classical attitude toward the use of money. One clue to it is given by Professor Thorstein Veblen ("The Preconceptions of Economic Science, II," *Quarterly Journal of Economics*, July, 1899; XIII, 411-26). Veblen lays stress upon the hedonistic conception of human nature which the classical writers held tacitly, either as professed disciples of Bentham or as sharers in the common sense of their day. This preconception shifted the center of interest in economics away from Adam Smith's concern with the bearings of industry upon the community's material welfare to Ricardo's problem of value and distribution. To conceive economic behavior as concerned primarily with buying and selling commodities, or with getting wages, rent, and profits was to emphasize the pecuniary side of life. Hence the legitimacy of Bagehot's interpretation of "English Political Economy" as "the science of business." But on the hedonistic basis money was a mere symbol:—nothing really counted in controlling behavior but pleasures and pains. Hence Mill's confident assertions about the insignificance of money. A hedonist could admit no fundamental inconsistency between the hedonic and the pecuniary calculus, though he might admit that the pain cost of a day's labor to a skilled man stood for more money than the corresponding pain cost to an unskilled man, and so need to supplement his "philosophy" of value by an "empirical" theory of prices.

[11] *Theory of Political Economy*, 4th ed., p. 65.

[12] P. 37.

[13] That his exposition does logically involve the existence of a general medium of exchange has been shown by Professor Allyn A. Young. "Jevons' Theory of Political Economy,'" *American Economic Review, September*, 1912, II, 584.

tributed more to our knowledge of price fluctuations. But he believed heartily in the subdivision of economic studies.[14] Among the fundamentals of economic theory—that is, in "the mechanics of utility"—he saw no place for money. It belonged among "the higher complications of the subject," into which his great treatise did not enter.[15]

For the "motives of business" which Bagehot found dominating classical economics then, Jevons substituted the striving for pleasure. Granted the validity of hedonism, his way of conceiving economic behavior was a great advance. Economic theory became more profound in that it dealt directly with ultimate motives, or with the physical objects and actions that evoked them. Human nature itself became simple enough to let the economist use the powerful methods of analysis provided by mathematics. The hypothesis "that Pleasure is the concomitant of Energy," and the "conception of Man as a pleasure Machine" promised to elevate social mechanics to a throne beside celestial mechanics.[16] Further, the economist's explanation of why things happen, his statements of what does happen, and his criterion of what ought to happen, were all established upon a single harmonious basis. Economics led directly to ethics; no radical shifting of the viewpoint was required.[17] To this admirable simplicity the conception added admirable practicality. On the hedonistic basis, "the materials with which exact social science is concerned are no metaphysical shadows, but the very substance of modern civilization, destined, doubtless ere long to become embodied in practical politics and morals."[18]

It is curious that this splendid vision, set forth with such precision and such eloquence by Professor Edgeworth, induced few of the economists who followed Jevons' line of attack to accept his explicit hedonism. Most of them worked with the concept of marginal utility—a notion less adapted to mathematical analysis than final degree of utility, but better adapted to popular exposition.[19] That is, they built, usually at the first remove, upon

[14] Preface to the 2nd ed. of the *Theory of Political Economy;* pp. xvi-xviii of the 4th ed.

[15] See the last paragraph of the program sketched by Jevons in 1862, published in 1866, and republished in the 4th ed. of his *Theory,* p. 314.

[16] Professor F. Y. Edgeworth, *Mathematical Psychics,* 1881, pp. 9-15.

[17] *Ibid.,* p. 56.

[18] *Ibid.,* p. 97.

[19] Compare Professor A. A. Young, "Jevons' 'Theory of Political Economy,'" *American Economic Review,* Sept., 1912, II, 583.

Menger, and Menger did not build upon Bentham. Likewise, those who were especially influenced by Professor John B. Clark did not find the word "hedonism" in *The Philosophy of Wealth.* As for the mathematical economists, they found in Walras a better master than Jevons, one who formulated the problem of exchange in all its generality, and Walras had no more to say of hedonism than Menger or Clark. Hedonistic preconceptions may have been tacitly held by these masters; they were not explicitly avowed.

To the example of reticence concerning the basis of choice set by Menger, Walras, and Clark, there was added in the late eighties and the early nineties a series of warnings from men who cultivated the borderland between economics and philosophy. Professors James Bonar, J. S. Mackenzie, and, most thoroughly, H. W. Stuart called the attention of economists to the passing of hedonism in psychology, and raised the question whether the whole utility analysis fell with it.[20] That ticklish question was little debated by mere economists for the next decade,[21] but they did seek anxiously to free their terminology from hedonistic implications. In 1892 Professor Irving Fisher protested against the foisting of (hedonistic) psychology upon economics by Gossen, Jevons, and Edgeworth as inappropriate and vicious, and held that utility might be derived from desire, whether the antecedent of desire was pleasure, duty, fear, or any other state of consciousness.[22] In the later editions of his *Principles,* Dr. Marshall changed utility "or pleasure" to utility "or benefit," defined consumer's rent as "surplus satisfaction" instead of "surplus pleasure," dropped his reference to Bentham's treatment of the propinquity and certainty of

[20] James Bonar, "The Austrian Economists and their View of Value," *Quarterly Journal of Economics,* Oct., 1888, III, 24, 25; extract from a paper on the "Relations of Carlyle to Political Economy" (Dec., 1890) published in *Philosophy and Political Economy,* 1893, (2d. ed., p. 236); John S. Mackenzie, *An Introduction to Social Philosophy,* 2d ed., 1895, pp. 267, 268; Henry W. Stuart, "Hedonistic Interpretation of Subjective Value," and "Subjective and Exchange Value," *Journal of Political Economy,* December, 1895, March and June, 1896, III, 64-84, and IV, 208-39, 352-85.

[21] Professor H. J. Davenport was among the first to take up this issue. See his "Proposed Modifications in Austrian Theory and Terminology," *Quarterly Journal of Economics,* May, 1902, XVI, 355-58; *Value and Distribution,* 1908; pp. 303-11; *Economics of Enterprise,* 1913, pp. 97-102. See also Professor A. C. Pigou, "Some Remarks on Utility," *Economic Journal,* March, 1903; XIII, 66-68.

[22] *Mathematical Investigations in the Theory of Value and Prices,* pp. 5, 11, 23.

pleasures, and inserted a note contesting "the belief that economists are adherents of the philosophical system of Hedonism or of Utilitarianism."[23] Such efforts to free economics from its entangling alliance were spurred on by critics—above all Professor Veblen—who urged that the substance of hedonism remains in marginal theory even after its semblance is dropped.[24] Though scant public notice was taken of these criticisms,[25] they contributed toward the feeling of uneasiness about the psychological basis of economics that is so marked at present. If hedonism is dropped what shall take its place? Or can economics dispense with psychology altogether?

III

Since the ostensible dropping of hedonism began, three fairly distinct types of orthodox economic theory have been developed by the psychological school, the pure theorists, and the neoclassicists.

The name "American Psychological School" was invented, I believe, by Professor Fetter. His *Princinples of Economics* (1904) is the best example of this type of theory for present purposes, because it surveys "the whole range of economic inquiry" in brief compass;[26] and because it has such aesthetic simplicity. This simplicity is attained by resolving all branches of economic theory into problems of value. The value of material things,—present goods and durable goods—the value of human services, and the social aspects of value include the whole field. Further, all these

[23] As examples of such modifications in his phraseology, compare the following parallel passages in the first and sixth eds. (1890 and 1910) pp. 83, 84 note with p. 17 note; pp. 187, 188 with p. 141; pp. 153, 154 with pp. 119, 120; p. 175 with p. 124; p. 156 with pp. 117, 118; similarly in the second (1891) and sixth eds., compare p. 150 with p. 93, and p. 153 with p. 95.

[24] Thorstein Veblen, "Why is Economics not an Evolutionary Science?" *Quarterly Journal of Economics,* July, 1898; "The Preconceptions of Economic Science," *ibid.,* January and July, 1899, and February, 1900; "Professor Clark's Economics," *ibid.,* February, 1908; "Fisher's 'Capital and Income,'" *Political Science Quarterly,* March, 1908; "Fisher's 'The Rate of Interest,'" *ibid.,* June, 1909; "The Limitations of Marginal Utility," *Journal of Political Economy,* November, 1909, XVII, 620-36.

[25] By way of exception, see Professor Irving Fisher's reply to Professor Veblen, "Capital and Interest," *Political Science Quarterly,* September, 1909; and Böhm-Bawerk's note on the subject, *Positive Theorie des Kapitals,* 3d ed., 2d half volume, pp. 310-21.

[26] P. 413.

value problems are treated in terms of a single unit, "the simplest, immediate, temporary gratification."[27] Since "the attainment of pleasurable conditions in mind or soul . . . is the aim of all economic activity,"[28] the economist must carry all his analyses back from money to goods, and from goods to the psychic income which goods yield. "All things at last become comparable in terms of psychic income in each individual's judgment . . . ."[29]

Now this "consistently subjective analysis of the relations of goods to wants,"[30] which Professor Fetter manages so deftly, has received two interpretations. First, it has been taken as what it purports to be—a psychological theory of economic behavior. The gist of the criticism on this reading is that the theory misrepresents the process of valuation. The assumption that men value goods as instruments for arousing certain feelings logically involves the following steps: the kind and magnitude of the feelings that given goods in given quantities presumably will arouse in a given person must be separated in his mind from other elements in his ideas of the goods; then these feelings must be valued and discounted according to their presumed futurities; finally the values set on the feelings must be passed back again to the goods. A generation that has lost faith in hedonism cannot accept such an analysis as psychologically valid. Men do not practice psychic book-keeping in terms of "the simplest, immediate, temporary gratification." They value goods, not feelings.[31]

The second interpretation is that the American psychological school has turned political economy into "business economics," "a system of economic accounting," "pecuniary logic."[32] It has taken

[27] Pp. XIV, 73, 413. Cost, of course, even psychic cost, is not recognized as coördinate in importance with gratification in determining value. See pp. 273, 274.

[28] P. 43.

[29] P. 225.

[30] P. XIV.

[31] For examples of such criticisms of the psychological school see Professor Veblen's reviews of Professor Fisher's *Capital and Income* and *The Rate of Interest, Political Science Quarterly,* March, 1908, and June, 1909; Professor A. S. Johnson's review of the last edition of Böhm-Bawerk's *Kapital und Kapitalzins, American Economic Review,* March, 1914.

[32] John R. Commons, "Political Economy and Business Economy: Comments on Fisher's Capital and Income," *Quarterly Journal of Economics,* November, 1907; A. S. Johnson's review of Fisher's *Elementary Principles of Economics, Journal of Political Economy,* November, 1913; W. C. Mitchell's review of Davenport's *Economics of Enterprise, American Economic Review,* September, 1914.

the habit of mind developed by business traffic, and imputed it to mankind at large in their dealings with goods in general. It has used the refined concepts of wealth, service, property, capital and income—concepts which are slowly elaborated products of the money economy—to frame an account of how men might behave if they were faultless products of the counting-house. "In short, for system's sake," the psychological school has recast "the whole material equipment of human living . . . in molds fashioned after the notions of catallactics," as Professor Young puts it.[33] And in so doing the school has rendered a notable service. For the use of money and the pecuniary way of thinking it begets is a most important factor in the modern situation. To isolate this factor, to show what economic life would be if it dominated human nature, is to clarify our understanding of economic processes. It is regrettable only that these writers have not emphasized the monographic character of their work.

Of these two interpretations the second accords better with the trend of development within the school. Even in 1904 Professor Fetter put three excellent chapters on the evolution of the money economy into his textbook. He pointed out "that the problem of time value was first clearly recognized in connection with money and a formally expressed capital sum." He admitted that the practical men who are "fixing the 'capital value' of goods are usually only dimly conscious of the logical nature of the process."[34] Indeed, he seemed on the verge of saying that the pecuniary logic which he was expounding was something that men have learned from business experience and carry back from that objective realm a little way into their psychic life. Professor Fisher in 1909 granted to Professor Commons that his *Capital and Income* dealt only with one side of economic life,[35] and then in his textbook in 1912 he gave a more uncompromising pecuniary version of economic behavior than Professor Fetter had done.[36] Finally, in 1913, Profesor Davenport carried this line of work through to its logical outcome by defining economics as "the science that treats phenomena from the standpoint of price," by accepting completely the "private and acquisitive point of view" in his search for expla-

[33] Allyn A. Young, "Some Limitations of the Value Concept," *Quarterly Journal of Economics*, May, 1911; XXV, 424.

[34] The chapters are numbered 13, 14, 15. The quotations are from pp. 142, and 126.

[35] "A Reply to Critics," *Quarterly Journal of Economics*, May, 1909.

[36] *Elementary Principles of Economics.*

nations, and by distinguishing sharply between that scientific task of explaining and the larger task of passing judgment upon the economic situation as a whole.[37]

Professor Fetter, indeed, has refused to accept Davenport's "price conception of economics."[38] But his new book, published since this paper was drafted, shows that he has shifted his own ground since 1904.[39] According to the preface "he presents here a quite new statement of the theory of value, one in accord with the modern volitional psychology, thus eliminating entirely the old utilitarianism and hedonism which have tainted the terms and conceptions of value ever since the days of Bentham. The basis of value is conceived to be the simple act of choice, and not a calculation of utility. Even the phrase 'marginal utility' is definitely abandoned."[40] As this change is a concession to critics who have charged the psychological school with hedonism, so another change is designed to meet critics who have charged the school with turning political economy into business economics. Without altering substantially his theories of prices and distribution, Professor Fetter now emphasizes the fact that these theories deal, not with economic behavior as such, but with elements logically implicit in economic behavior. And he shows that these logical implications are brought out by the use of money. Hence the pecuniary aspects of economic life get clearer recognition than in Professor Fetter's earlier work. But they are not permitted to cover the whole field. For to his analysis of the process by which business incomes are fixed, Fetter adds a brief discussion of the social aspects of value.[41]

[37] *Economics of Enterprise*, pp. 25, 517. In his own despite Professor Fetter claims Davenport as a (wayward) member of the American psychological school. See his review, "Davenport's Competitive Economics," *Journal of Political Economy*, June, 1914. Of course Davenport's desire to divorce economics from psychology (see pp. 97-102, 230-32) is no reason for counting him out of the school. Professor Fisher is a member of unquestioned standing, and, as noted above, he protested from the start against "the foisting of psychology upon economics." Similarly, Professor F. von Wieser ranks himself in the psychological school, though he disclaims dependence upon psychology proper. See his new *Theorie der gesellschaftlichen Wirtschaft*, in *Grundriss der Sozialökonomik*, Vol. I, 1914, p. 132.

[38] See his article referred to in the preceding note.

[39] *Economics*, Volume I, *Economic Principles*, New York, September, 1915.

[40] P. ix.

[41] With reference to the place of this topic in economics, the difference between Davenport and Fetter seems to be important only from the terminologi-

The "psychological" type of theory, then, has brought money back into the very center of economics. From the use of money is derived not only the whole set of pecuniary concepts which the theorist and his subjects employ, but also the whole counting-house attitude toward economic activities. In its use are found the molds of economic rationality, and the clues to economic explanations.

IV

While the psychological school has been developing its pecuniary logic, certain pure theorists have sought another way of emancipating themselves from hedonism. The leader of this diversion is Professor Vilfredo Pareto.

As his disciple, M. Zawadzki says, Pareto employed the hedonistic hypothesis in his earlier work. But since 1900 he has developed "a new theory, which he calls the theory of choice, a theory which may replace the hedonistic hypothesis with advantage."[42] Adopting a device invented by Professor Edgeworth in 1881,[43] he deduces everything necessary for his theory of equilibrium from "curves of indifference." Pareto's innovation consists in this: while Edgeworth derived indifference curves from the concept of utility, Pareto treats them as factual data.[44] Thanks to this procedure, "The theory of economic science . . . acquires the rigor of rational mechanics: it deduces its results from experience, without requiring the intervention of any metaphysical entity."[45]

This apparatus of indifference curves or surfaces in hyper-space presents difficulties to "the literary economists," whom Pareto scorns. But fundamentally the same procedure has been brought

cal viewpoint. Both treat social value, and treat it apart from the main body of their theories; one calls this addendum economic theory, the other doesn't.

It may be added that Professor Fetter's new book brings the psychological type of economics distinctly nearer to recent pure theory in the discussion of value, and nearer to neo-classical theory in certain other respects, *e.g.*, the relation of cost to value and prices.

[42] W. Zawadzki, *Les Mathématiques appliquées à l'Economie Politique,* 1914, pp. 142, 143.

[43] *Mathematical Psychics,* pp. 22, 29.

[44] *Manuel d'Economie Politique,* 1909, p. 169 note.

[45] *Ibid.,* p. 160. Pareto does not, however, wholly discard the concept of utility, or ophelimity. Concerning the role which it continues to play in his new theory, see Zawadzki, *op. cit.,* pp. 151-56. Compare the comments by Professor Edgworth, "Recent Contributions to Mathematical Economics," *Economic Journal,* March, 1915, XXV, 57-62.

within the non-mathematical comprehension by one who is free both of the mathematical and the literary guild. Mr. Wicksteed conceives "of a general 'scale of preferences' . . . on which all objects of desire or pursuit (positive or negative) find their place, and which registers the terms on which they would be accepted as equivalents or preferred one to the other." This construction gives him "a system of ideal prices," upon which he can erect his whole edifice of theory, without inquiring into the grounds on which men's preferences rest.[46] Similarly, Professor Schumpeter, following Walras, assumes as data for his general theory, *m* individuals, their respective value functions for each of *n* goods, and the quantity of each good in the possesion of each individual, denying that the economist has any business with the psychological processes from which the value functions are derived.[47]

It is clear, at once, that this type of theory eliminates the problem of valuation from economics. That is, it does not concern itself with the way in which men find out what relative importance different goods have for their purposes. Instead, it assumes that this process of valuation has been completed before they come to market by each of the men with reference to each of the goods, and furthermore that the process has yielded in each man's mind definite quantitative results. Not until that stage has been reached does the pure theorist begin his work. His first step is to cast the finished individual valuations into the form of indifference curves, scales of preference, objective expressions of choice, or value functions. That gives him a set of what Mr. Wicksteed terms "ideal prices" as data for analysis. Then the theorist develops a logical scheme of conceiving the process by which mutually-interdependent market prices result from the "ideal prices." He does not, of course, profess to show what the market prices will be;[48] but he does demonstrate more adequately than any other type of economist the complex inter-relationships logically involved in the determination of prices in modern markets.

Even more strictly than the writings of the psychological school, pure economics is a generalized statement of the business man's

[46] P. H. Wicksteed, *The Common Sense of Political Economy,* 1910, pp. 32, 33.

[47] Joseph Schumpeter, *Das Wesen und der Hauptinhalt der theoretischen Nationalökonomie,* 1908, pp. 64-68, 77-79, 85-87, 154, 155, 261, 541-47.

[48] For (1) the "value functions" are as yet arbitrarily assumed, (2) the whole discussion presupposes static conditions, and (3) when many men and many goods are involved the number of equations to be handled becomes too great for solution.

problem, a counting-house view of economic life. The problem concerns the complex mutual adjustments among a host of possible prices on the one hand and the possible quantities of different goods that might be bought and sold at these prices on the other hand. Just as business men think in the same terms of investments in commerce and in industry, so the pure theorists carry their argument forward from exchange to production, treating their subjects as exchanging goods and efforts with nature for new products on the same principles that rule their exchanges among themselves. Perhaps the chief difference between the viewpoints of business and pure theory is that the business man is less indifferent toward the grounds of choice than the theorist. He wants to know why people value goods in order that he may spend his advertising money wisely. To drop the theory of valuation from economics therefore reduces its significance for him. But in drawing narrow limits round their work the pure theorists know exactly what they are doing, and seldom fail to give their readers adequate warning of the modest pretensions of their results. These are merits which cannot be claimed so confidently for the psychological school at large.

V

Neo-classical economics, as represented by Dr. Marshall's *Principles*, puts money conspicuously into the foreground from the start. Indeed, Dr. Marshall declares that money "is the center around which economic science clusters."[49] But he hastens to add:—" . . . this is so, not because money . . . is . . . the main aim of human effort . . .; but because . . . it is the one convenient means of measuring human motive on a large scale."[50]

Why is the measurement of motive so important as to make money "the center around which economic science clusters?" The full answer to that naïve question runs as follows: Economics is a science of human behavior.[51] Behavior is determined by motives. Motives differ widely in kind, and are continually conflicting with one another. Yet the economist may not exclude "the influence of any motive the action of which is regular."[52] What he does is to arrange motives in "two opposing sets of forces, those which impel

[49] P. 22. This and the following references are to the 6th ed., 1910.

[50] *Loc. cit.*, compare p. 782.

[51] Compare pp. 1, 14, 33, 49.

[52] P. XIII, compare p. 24. For the great variety of motives which Marshall takes into account, see pp. 23-25; 86-89; 120-21; 141, etc.

man to economic efforts and sacrifices, and those which hold him back."[53] To know what economic actions men normally will take, then, the theorist must know the relative strength of these opposing sets of motives. But motives are mental states; and mental states are not directly commensurable unless they are similar in kind, and "unless they occur to the same person at the same time." "If then we wish to compare even physical gratifications, we must do it not directly, but indirectly by the incentives which they afford to action." ". . . the force of a person's motives—*not* the motives themselves—can be approximately measured by the sum of money which he will just give up in order to secure a desired satisfaction; or again by the sum which is just required to induce him to undergo a certain fatigue."[54]

To explain and to predict economic behavior, then, the economist needs a measure of the strength of the opposing sets of regularly-acting motives. Such a measure money gives him. Indeed in the whole task of explaining the phenomena of exchange and distribution the money measures are more than mere measures of the forces at work;—they are themselves these forces. For the intensities of a man's desires and aversions do not affect the market, except as they become embodied in demand or supply prices. It is the magnitude of these pecuniary embodiments of motives, not the strength of the motives as such, that determines the results.[55]

To explain how prices are determined and how wealth is distributed, however, is but one half of Dr. Marshall's task. He is equally interested in stating what results these processes produce. These results are subjective matters—magnitudes of satisfaction achieved and of sacrifice endured. Here again he uses his money measure, albeit with greater reservations. He is forced to assume that satisfactions correspond in general fairly well to anticipations. On this basis he makes the money measure of the strength of motives "serve, with all its faults, *both* for the desires which prompt activities and for the satisfactions that result from them."[56] There is, however, an important difference between the use of money measures to explain economic processes and to state their results. As demand prices the rich man's shilling and the poor man's

[53] P. 324.

[54] Pp. 15, 16.

[55] That Dr. Marshall does not dwell upon this rather patent feature of his theory arises from his practice of discussing homogeneous groups to which equal money measures stand presumably for equally intense motives.

[56] P. 92, and note.

shilling are equal in the market; as measures of satisfaction they are not equal to the economist.

Thus Dr. Marshall makes money an instrument of economic research. What Mill spoke of as obscuring the true character of economic processes, what Professor Fisher calls "the chief stumbling-block in economic theory,"[57] becomes in his hands the "economist's balance," which "has made economics more exact than any other branch of social science."[58] He even questions whether there could be a science of economics in a community that did not use money, unless there existed some substitute which would "serve to measure the strength of motives just as conveniently and exactly as money does with us."[59]

Not only does Marshall use money for his own theoretical purposes; he also represents men as using money for their practical purposes,—buying and selling at money prices, making and spending money incomes. Instead of brushing these pecuniary phenomena aside as superficial, he treats them as serious problems to be solved in their own right, and as making a real difference in economic behavior that is not to be explained away. This it is that gives his treatise its realistic atmosphere.[60] But it is not merely to gain a realistic effect that Marshall pictures men as using money; he has a deeper reason. As no other theorist, he sees how the use of money clarifies obscure relations and simplifies economic thinking, both for the man in the street and for the economist in the study. For example, he shows how the use of money facilitates the task of distributing a persons's resources in such fashion that the marginal utilities of a given outlay may be approximately equal in all branches of expenditure.[61] He demon-

[57] "Capital and Interest," *Political Science Quarterly,* September, 1909, XXIV, 513.

[58] *Principles,* p. 14.

[59] P. 782.

[60] Professor Allyn A. Young remarks that Marshall's "theory is cast more consistently in terms of price than that of any other writer since Cournot." ("Some Limitations of the Value Concept," *Quarterly Journal of Economics,* May, 1911, XXV, 412 note.) But he also reminds us that Marshall takes the price of anything "as representative of its exchange value relatively to things in general, or in other words as representative of its general purchasing power" (*Principles* p. 62). That distinction means in practice that Marshall follows the business man in neglecting changes in the purchasing power of money, except when he is dealing with long periods. And on these latter occasions he allows for changes in the price level much in the business man's fashion. For example, see pp. 109, 132, 237, 238, 355, note, 362, 593-95, 709.

[61] P. 118.

strates that buying and selling for money is a *simpler* problem than barter, both for the participants and for the theorist.[62] He points out that while "the distinction between prime and supplementary costs operates in every phase of civilization," still "it is not likely to attract much attention except in a capitalistic phase."[63] He recognizes that his whole theory of normal value applies with more precision of detail to the actions of "city men," who are thoroughly disciplined in the use of money, than to the actions of the unbusiness-like classes.[64] Finally, he argues that the commutation of labor dues into money payments increased economic freedom, and that economic freedom has given "a new precision and a new prominence" to the causes that govern value.[65] Specifically, money rents brought it about that "the line of division between the tenant's and the landlord's share coincides with the deepest and most important line of cleavage in economic theory": namely, "the distinction between the quasi-rents which do not, and the profits which do, enter into the normal supply price of produce for periods of moderate length."[66]

VI

Economics has advanced far since Mill declared, "there cannot . . . be intrinsically a more insignificant thing, in the economy of society, than money, except in the character of a contrivance for sparing time and labour." In one way or another, tacitly or explicitly, the types of theory current at present all make money in Dr. Marshall's words "the center around which economic science clusters." The psychological school started by representing economic life as guided by psychic bookkeeping, and has developed economics into "the science that treats phenomena from the standpoint of price." Pure theory in its severer forms drops the subject of valuation altogether and confines itself mainly to the inter-relations among "ideal prices." Neo-classical theory makes money the "economist's balance," and shows how the use of money simplifies economic problems both practical and theoretical.

In thus singling out the use of money as bringing system into economic behavior, as providing the basis for exact analysis, current theory is returning to the starting point from which Cournot

[62] P. 336 and Appendix F.

[63] P. 362.

[64] P. XIV.

[65] Pp. 5 and 741.

[66] P. 636 and note.

set out on his researches in 1838. What we call price, what Cournot calls the "abstract idea of *wealth* or of *value in exchange*," he explains in his first chapter, is "suited for the foundation of a scientific theory," because it is "a definite idea, and consequently susceptible of rigorous treatment in combinations." This abstract idea of wealth "could not have been grasped by men of Teutonic stock, either at the epoch of the Conquest, or even at much later periods, when the feudal law existed in full vigor." ". . . Such an idea of wealth as we draw from our advanced state of civilization, and such as is necessary to give rise to a theory, can only be slowly developed as a consequence of the progress of commercial relations. . . ." A remarkable anticipation of the outcome of two generations of hard thinking! And Cournot applies his insight: as a first problem he chooses not barter, but foreign exchange—the kind of transaction in which nothing but pecuniary factors are involved.[67]

In singling out the influence of an institutional factor as the basis of rationality, current economics is also in line with current psychology. Psychologists hold that man starts with an immense number of inborn reflexes, instincts, and capacities, inherited generation after generation with numberless differences as between individuals, but with slight changes as regards the species. The behavior these propensities produce is at first quite unreasoning. But among the inborn capacities is the capacity to learn; that is, the capacity to form innumerable *combinations* among the innumerable original propensities. Practically every activity of mature life is the expression not of any single instinct, but of some combination into which several or many propensities have entered. It is these changing combinations among substantially unchanging elements that differentiate the behavior of the civilized man from that of the savage. And these combinations are formed afresh in every child, primarily in his intercourse with other human beings. Thus intelligence is a social product developed in the individual through the exercise of his inherited propensities, and its special character depends upon the society into which the individual is born. The great social institutions, such as speech, writing, the

[67] A. Cournot, *Researches into the Mathematical Principles of the Theory of Wealth.* 1838. Translated by N. T. Bacon, 1897. Chapters i and iii. Professor Henry T. Moore has pointed out to me two later passages in Cournot's writings in which he seems to lose the vision of these early pages. One occurs on p. 164 of the translation cited, the other on p. 4 of his *Revue sommaire des doctrines économiques* (1876).

practical arts, and religion, which are passed on with cumulative changes from one generation to another, play the leading rôle in this nurture of intelligence. They are standard behavior habits —habits of feeling, thinking, and acting in the face of frequently-recurring situations—which have approved themselves to the community. These institutions include among their other elements the abstract concepts which are the most precious products of intelligence because they are the indispensable tools of further thought. By learning to use such concepts in dealing with the situations which confront him, the individual standardizes and rationalizes his own behavior. To find the basis of rationality, then, we must not look inside the individual at his capacity to abstract from the totality of experience the feeling elements, to assess their pleasant or unpleasant characters, and to compare their magnitudes. Rather must we look outside the individual to the habits of behavior slowly evolved by society and painfully learned by himself.[68]

Of course, the use of money is one of these great rationalizing habits. It gives society the technical machinery of exchange, the opportunity to combine personal freedom with orderly coöperation on a grand scale, and the basis of that system of accountancy which Sombart appropriately calls "economic rationalism." It is the foundation of that complex system of prices to which the individual must adjust his behavior in getting a living. Since it molds his objective behavior, it becomes part of his subjective life, giving him a method and an instrument for the difficult task of assessing the relative importance of dissimilar goods in varying quantities, and affecting the interests in terms of which he makes

[68] This statement does not mean that the exercise of intelligence is a prominent feature in all habitual action, any more than it means that all institutions are rational. But, as our pure theorists insist, those actions which are most frequently repeated get most thoroughly organized, because they give the fullest scope to learning by trial and error. The more thorough such a piece of organization becomes, however, the less it calls for supervision by intelligence. Hence arises the possibility of contrasting routine with intelligent action. But the successful routine of today remains a triumph of yesterday's creative intelligence, and if today's hard thinking prove equally successful it may organize the routine of tomorrow. Of course the growing individual must master the past achievements of intelligence before he can participate in work upon present problems. And these past achievements are embodied primarily in social institutions. The more intelligently these institutions have been adapted to current social needs, the more can a learner get from them, and the more will creative intelligence seek new worlds to conquer.

his valuations. Because it thus rationalizes economic life itself, the use of money lays the foundation for a rational theory of that life.[69] Money may not be the root of *all* evil, but it is the root of economic science.

That economists are coming to accept this view is no more due to their study of psychology than it is due to their study of Cournot.[70] It is the result of learning by trial and error. They have tried treating money as a superficial phenomenon: they have tried using hedonism as the basis of economic rationality. But in working out, in treatise after treatise, a reasoned account of how men behave, they have come, without foreseeing what they were doing, to the basis on which Cournot built in 1838. That a serious and long-sustained effort to explain their phase of human behavior has brought economists unwittingly to much the same viewpoint as psychologists have attained by other routes may well raise their confidence.

[69] Of course, an economic theory might be worked out concerning the way in which a species of animals or a tribe of lower hunters get their livings. But such a theory would be a descriptive analysis of behavior written by an outsider. Our economic theory is less an account of what men actually do than a statement of what it is rational for them to do, as seen by a shrewd fellow-citizen. Ricardo expressed this difference clearly in the remarkable letter to Malthus written Oct. 22, 1811, concerning international shipments of money. "I assume," he says, "that nations . . . are so alive to their advantage and profit . . . that in point of fact money never does move but when it is advantageous . . . that it should do so. The first point to be considered is, what is the interest of countries in the case supposed? The second, what is their practice? Now it is obvious that I need not be greatly solicitous about this latter point; it is sufficient for my purpose if I can demonstrate that the interest of the public is as I have stated it. It would be no answer to me to say that men were ignorant of the best and cheapest mode of conducting their business . . . because that is a question of fact not of science and might be urged against almost every proposition in Political Economy." (*Letters of Ricardo to Malthus*, ed. by J. Bonar, p. 18.) So long as economists follow this practice of explaining what is rational conduct under the conditions assumed, and depend upon an assumption that men are rational to make the theory a tolerably accurate account of the "facts," it is particularly desirable for them to keep their rational explanations on the same basis as men's rational economic choices.

[70] Dr. Marshall does indeed acknowledge his indebtedness to Cournot, but with reference to certain mathematical features of his work, not with reference to the use he makes of money. See preface to the first edition of the *Principles;* 6th ed., p. XV.

VII

If it is good to celebrate this achievement, it is better to consider how we may turn what has been won for us by others to best account in our own future work. Are we to confine our theorizing consciously to the pecuniary aspect of life? Are we to devote our energies wholly to elaborating the theory of prices, to refining the logic of economic accounting? I think not. Clear recognition of the rôle which money does play in economic life is more likely to broaden than to narrow the scope of economic theory. It should help us to design, what we sorely need, a framework within which all sorts of contributions may find their proper places. I see the situation thus:

Economic life may be regarded as a continuous process of providing and using commodities and services. This industrial process includes the work of the farm, the mine, the railway, the warehouse, the store, the engineering office, etc., as well as the work of the factory. It has its elaborately differentiated techniques, resting primarily upon the physical sciences and mathematics, in less measure upon certain branches of biology. It has its technical experts, its organized labor force, and its capital in the shape of material equipment.

Economic life may be regarded also as a process of making and spending money. This business process is shared in by everyone who is getting a money income in any way or laying out money for any purpose. Its technique rises from the simple planning of family budgets, through "the exact science of making change,"[71] the arts of bargaining and salesmanship, bookkeeping and accountancy, to the large tasks of financial administration. Its technical experts are business enterprisers, chartered accountants, bankers, brokers, business agents of trade unions, etc. Its special labor force includes bookkeepers, cashiers, advertising clerks, and the like. Its material equipment is meager; but all capital belongs here in the guise of pecuniary funds.

Making goods and making money are both objective processes, at some points quite distinct from or even opposed to each other; at most points running side by side, concerned with the same objects and supervised by the same men. We habitually interpret these two objective processes in terms of personal and social interest. These interpretations give us two other ways of looking at economics. To be specific:

[71] The phrase is borrowed from Thorstein Veblen's *Instinct of Workmanship.*

Economic life may be regarded also as a process of making efforts and gaining satisfactions; or better, the activities of getting and using goods, of making and spending money, have a subjective aspect upon which attention may be focused. In this dim inner realm of consciousness it is difficult to make out the technique; there are no technical experts, no labor forces, no material appliances, and no capital in any sense, except by virtue of fanciful analogies.

Economic life may be regarded finally as the process by which a community seeks its material welfare. On this view every person is a contributor to, a burden upon, or a detractor from the common weal. Such technical experts as there are must be sought among the people in public or private life who seek to promote social welfare by constructive thinking, by agitation, by philanthropic effort, or by doing their daily work with an eye to its serviceability to the community rather than its profit to themselves. Such accounting as is possible runs in terms of heightening or lowering the community's vitality. The concept of capital merges into the broader concept of resources—soil and climate, mines and forests, industrial equipment, public health, intelligence and general education, the sciences that confer control over nature, the sciences that aid in developing body and mind, and the sciences that bear upon social organization.

Now our interest in economics centers in its bearing upon social welfare in the present and the proximate future. As Professor Pigou and Mr. Hobson have shown,[72] it is feasible even now to set up a tentative criterion of economic welfare, and make investigations into the relations between various features of economic activity as now conducted and welfare as thus conceived. Such work may have as keen theoretical interest, as genuine scientific standing, as work that professes to maintain a serene indifference to the fate of humankind.[73] But its successful prosecution on a scientific

[72] A. C. Pigou, *Wealth and Welfare,* 1912; J. A. Hobson, *Work and Wealth; a Human Valuation,* 1914.

[73] The "socio-ethical" element in the work of many German economists, on the contrary, does not seem to me to be economic theory, or to have a scientific character—however excellent it may be in other respects. For these writers are concerned to inculcate their own ideals of social welfare, and to show by what specific changes they may be approximated more closely. They exercise the functions of preachers and statesmen rather than the functions of investigators. It is interesting to notice that the scientific sterility of this type of work has recently been the subject of numerous complaints in Germany itself.

basis presupposes considerable knowledge of how economic processes actually work at present. While the understanding of these processes has been the chief aim of economic investigation for a century, no one fancies that this fundamental task has yet been adequately performed. In the interests of social welfare itself we need clearer insight into the industrial process of making goods, the business process of making money, and the way in which both sets of activities are related to each other and to the individual's inner life.

Into our conjoint attack upon these problems a clear recognition of the rôle played by money promises to bring more definite order and more effective coöperation. It helps us to formulate our tasks in ways that suggest definite things to try next. For example, to find the basis of economic rationality in the development of a social institution directs our attention away from that dark subjective realm, where so many economists have groped, to an objective realm, where behavior can be studied in the light of common day. It shows the high promise of that effort to frame an "institutional theory" of value which certain of our colleagues have begun.[74] It helps us to keep in mind the fateful distinction between those elements in human nature that are inherited and hence presumably unchanging, and those other elements that are acquired and hence presumably susceptible of modification—a distinction around which turns so much of our thinking concerning days to come. To realize that our theoretical inquiries cluster about the workings of an institution bridges the gulf that has existed to the detriment of both between economic theory and economic history. It establishes upon a common plane the work of those who seek to know how economic organization has developed in the past, of those who seek to know how it functions in the present, and of those who seek to know what changes it promises to undergo in the future. To differentiate sharply between making money and making goods brings into its proper prominence the problem of the relations between business management and industrial efficiency. It prepares us to face that subtler problem of the dissimilar habits of thought drilled into men by the daily work of

[74] See the various papers of Professor C. H. Cooley, referred to in the latest of his series, "The Progress of Pecuniary Valuation," *Quarterly Journal of Economics, November,* 1915; and the discussion of "The Concept of Value" by Professors B. M. Anderson, Jr., and J. M. Clark in the *Quarterly Journal of Economics,* August, 1915, especially Professor Clark's remarks on p. 715.

the counting-house and of the factory.[75] By going in for a realistic treatment of business life, we may hope to arouse a keener interest and a wider coöperation in economic theory. For we shall be analyzing the actual processes with which men of affairs are concerned; we shall be treating problems that have meaning to legislators, administrators, and judges; we shall be stating our hypotheses in ways that facilitate their practical testing; and we shall be reaching conclusions that have a clearer bearing upon our hopes and fears for the future.

The current tendency to make money "the center around which economic science clusters," then, is a tendency to be fostered. For that course promises (1) to clarify economic theory by giving it a better framework, (2) to render economic theory more useful by directing attention to those actual processes with which all serious proposals for governmental regulation and social reorganization must deal, (3) to make economics more realistic and therefore more interesting intellectually as well as practically, and, finally, to make economic theory more profound by orienting the economist for a fruitful study of his aspect of human behavior.

[75] See the paper prepared by Thorstein Veblen for the annual meeting of this Association in 1900: "Industrial and Pecuniary Employments."